

REMARKS

Claims 19, 22-24, 35 and 40-50 are pending. By this Amendment, claims 19 and 35 are amended and dependent claims 49 and 50 are added. Independent claims 19 and 35 are amended to even more clearly distinguish over the applied reference. Support for the amendments to claims 19 and 35, and for claims 49 and 50, can be found throughout the specification. See, for example, Fig. 19 and its corresponding description, as well as paragraphs 42 and 122-123. Thus, no new matter is added by the above amendments.

I. Information Disclosure Statement

The Examiner is requested to consider the information submitted in the July 19, 2005 Information Disclosure Statement. The Examiner is requested to return an initialed PTO-1449 with the next Patent Office communication.

II. All Pending Claims are Patentable

Applicants note with appreciation the allowance of claims 23, 24 and 41-48. Applicants submit that the remaining claims also are patentable.

Claims 19, 22, 35 and 40 stand rejected under 35 U.S.C. §102(b) over U.S. Patent No. 5,377,654 to LoRusso et al. This rejection is respectfully traversed.

LoRusso et al. does not disclose or suggest correcting a fuel injection quantity to reduce the variation in the air-fuel ratio between a plurality of cylinders on the basis of a detected variation in the air-fuel ratio among the plurality of cylinders and an operation angle of an intake valve of each of the cylinders, as recited in independent claims 19 and 35. LoRusso et al. also does not disclose or suggest correcting a fuel injection quantity to reduce the variation in the air-fuel ratio between a plurality of cylinders on the basis of a relationship between a fuel injection quantity correction coefficient selected based on a detected variation in the air-fuel ratio among the plurality of cylinders and an operation angle of an intake valve of each of the cylinders, as recited in dependent claims 49 and 50.

More generally, LoRusso et al. does not disclose or suggest that the correction amount should be varied based upon an operation angle of an intake valve for a particular cylinder when attempting to reduce the variation in the air-fuel ratio among a plurality of cylinders. The Office Action states that LoRusso et al. shows a control apparatus "in which the operation angle (the intake valve lift) for each individual cylinder is controlled to reduce variation among the cylinders." However, independent claims 19 and 35 do not recite that the operation angle is controlled to reduce variation among the cylinders. Rather, these claims recite that the fuel injection quantity is corrected in order to reduce the variation in the air-fuel ratio among the plurality of cylinders, and the correction in the fuel-injection quantity is based on an operation angle of the intake valve of each of the cylinders. This is different than merely controlling the intake valve lift to reduce variation in air-fuel ratio among the cylinders. Thus, LoRusso et al. does not recognize or address the problems addressed by the combinations of features recited in independent claims 19 and 35, as described in Applicants' specification.

The Office Action cites col. 5, lines 42-44 of LoRusso et al. in support of the statement that "LoRusso also detects a variation in the air-fuel ratio." This portion of LoRusso et al. relates to the "corrective factor σ ." As described at col. 5, lines 44-50, the reference fuel charge is multiplied by the corrective factor σ to determine the "corrected reference fuel charge," which then is used to determine the average desired fuel charge per cylinder. Thus, the corrective factor σ is used for all of the cylinders. Thus, the corrective factor σ discussed at col. 5, lines 42-44, and relied upon in the Office Action does not relate to detecting or correcting "a variation in an air-fuel ratio among the plurality of cylinders" (emphasis added) as recited in claims 19 and 35. The corrective factor σ is used to determine the "corrected reference fuel charge," which then is used to determine the fuel charge for all of the cylinders.

Thus, the corrective factor σ does not function to reduce a variation in the air-fuel ratio
among the plurality of cylinders.

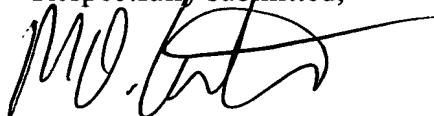
Withdrawal of the rejection is requested.

III. Conclusion

In view of the foregoing, Applicants respectfully submit that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,



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Date: September 20, 2005

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